

FIG. 1

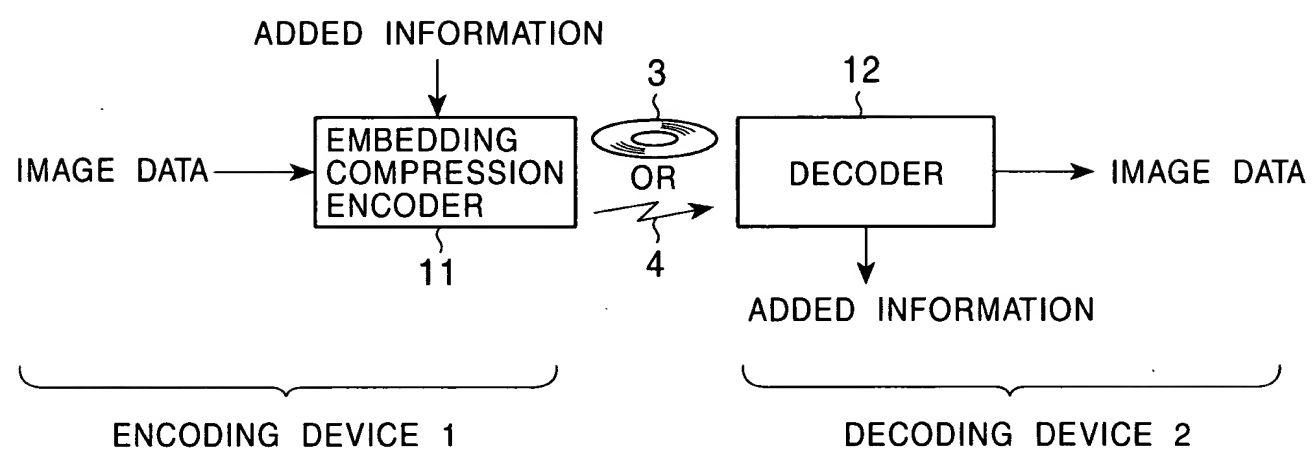


FIG. 2

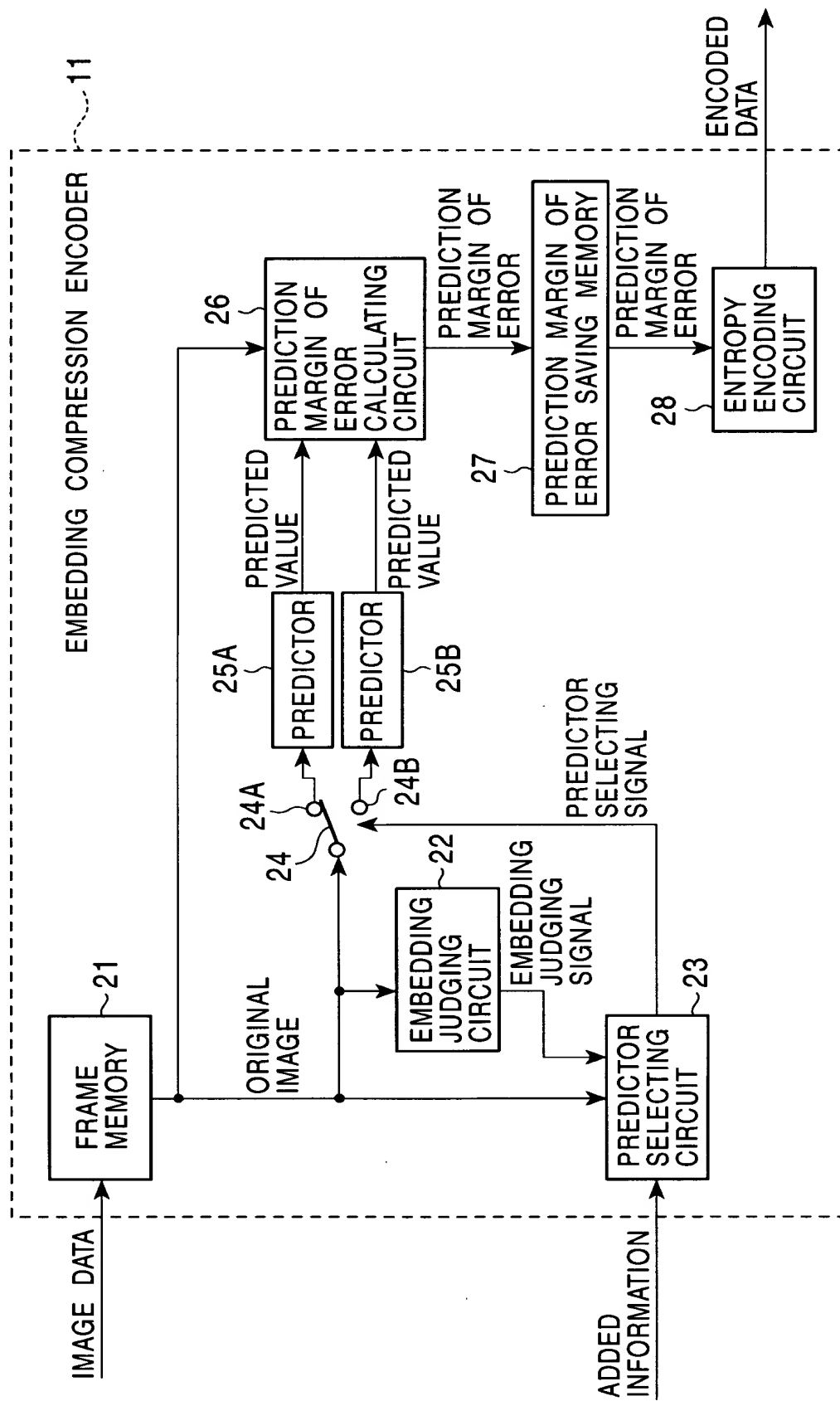


FIG. 3

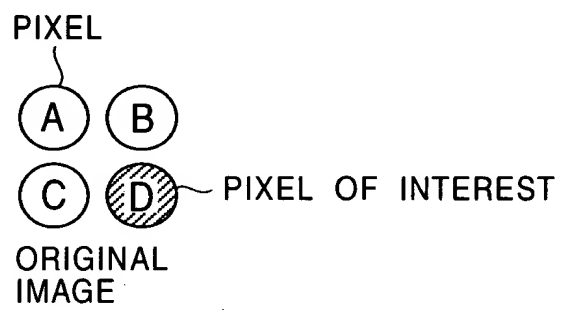


FIG. 4A

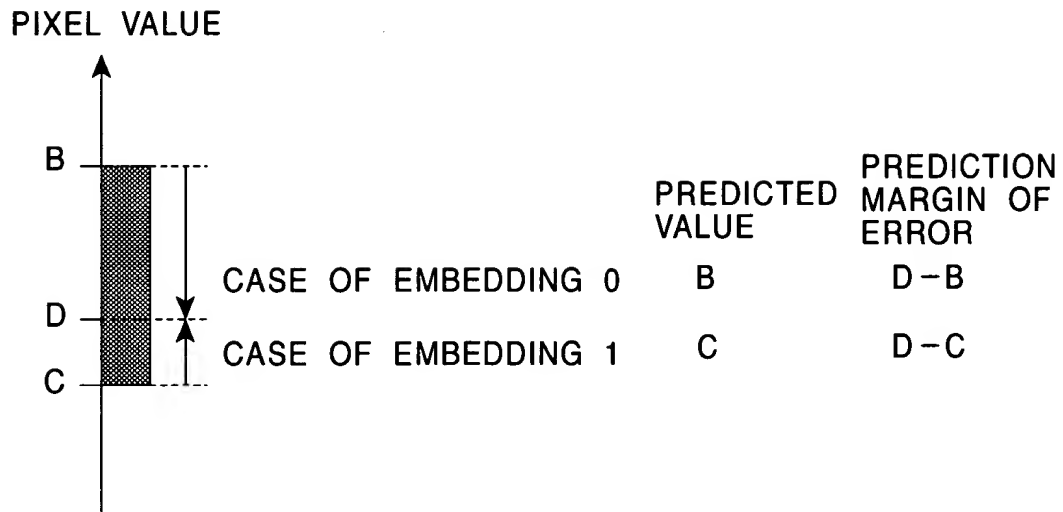


FIG. 4B

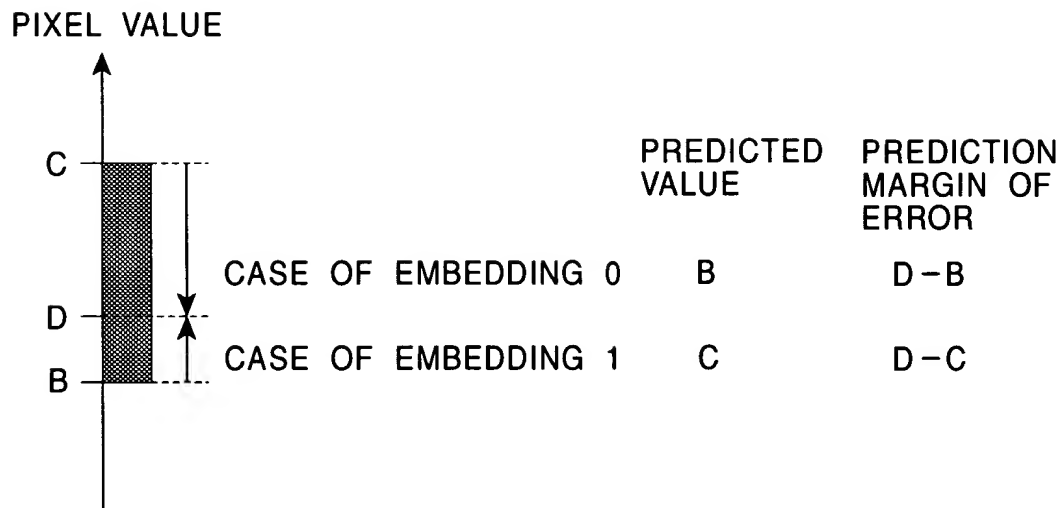


FIG. 5A

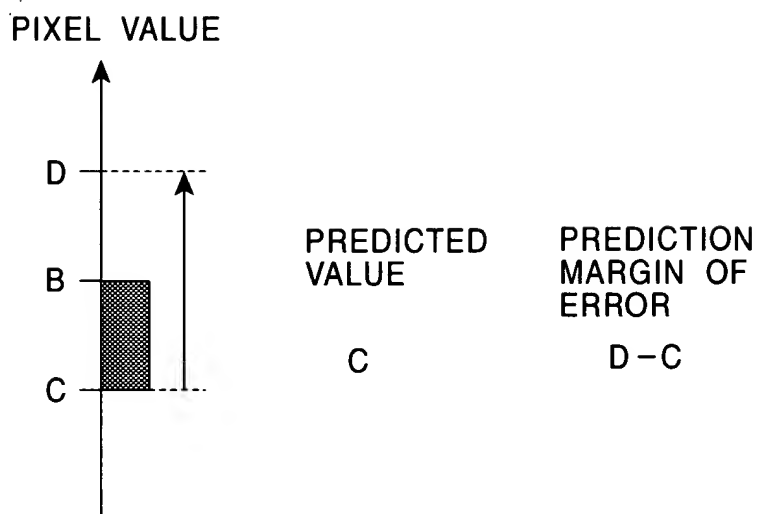


FIG. 5B

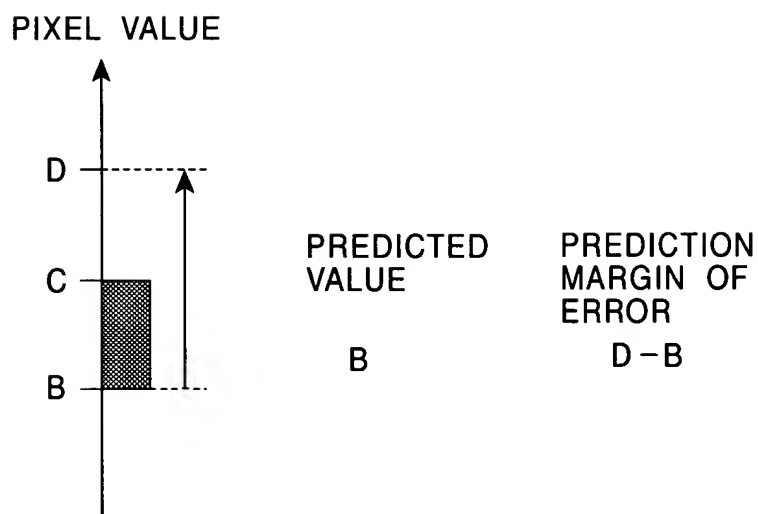


FIG. 6

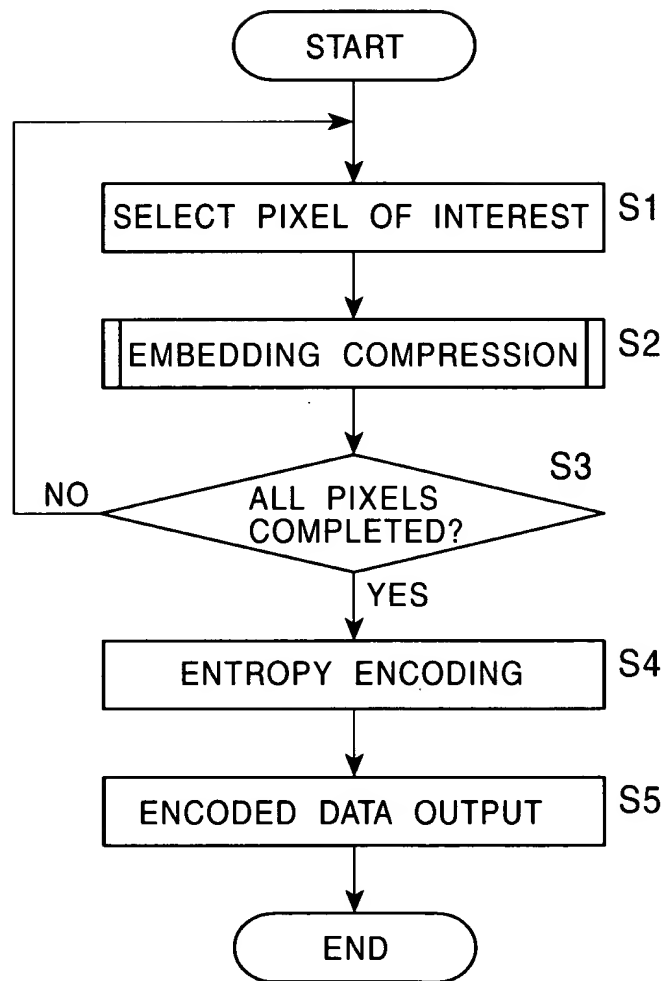


FIG. 7

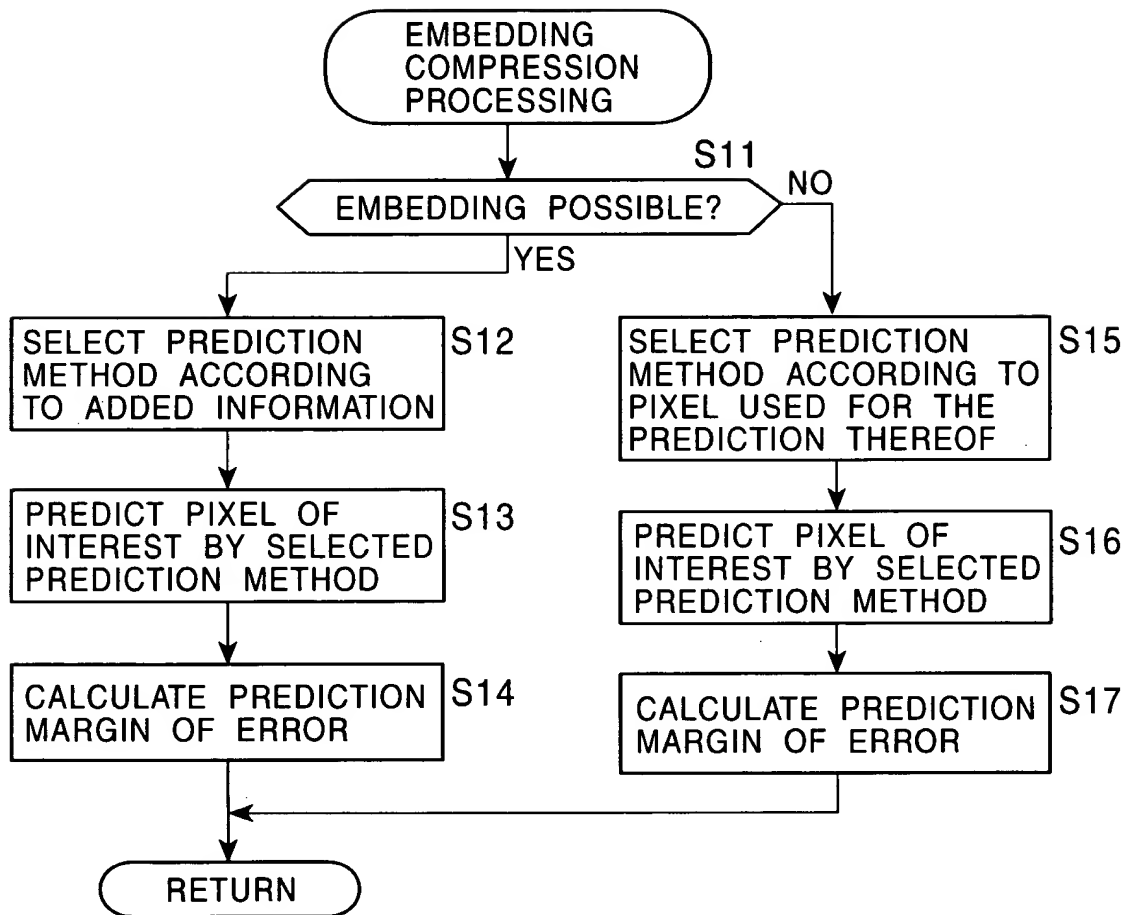


FIG. 8

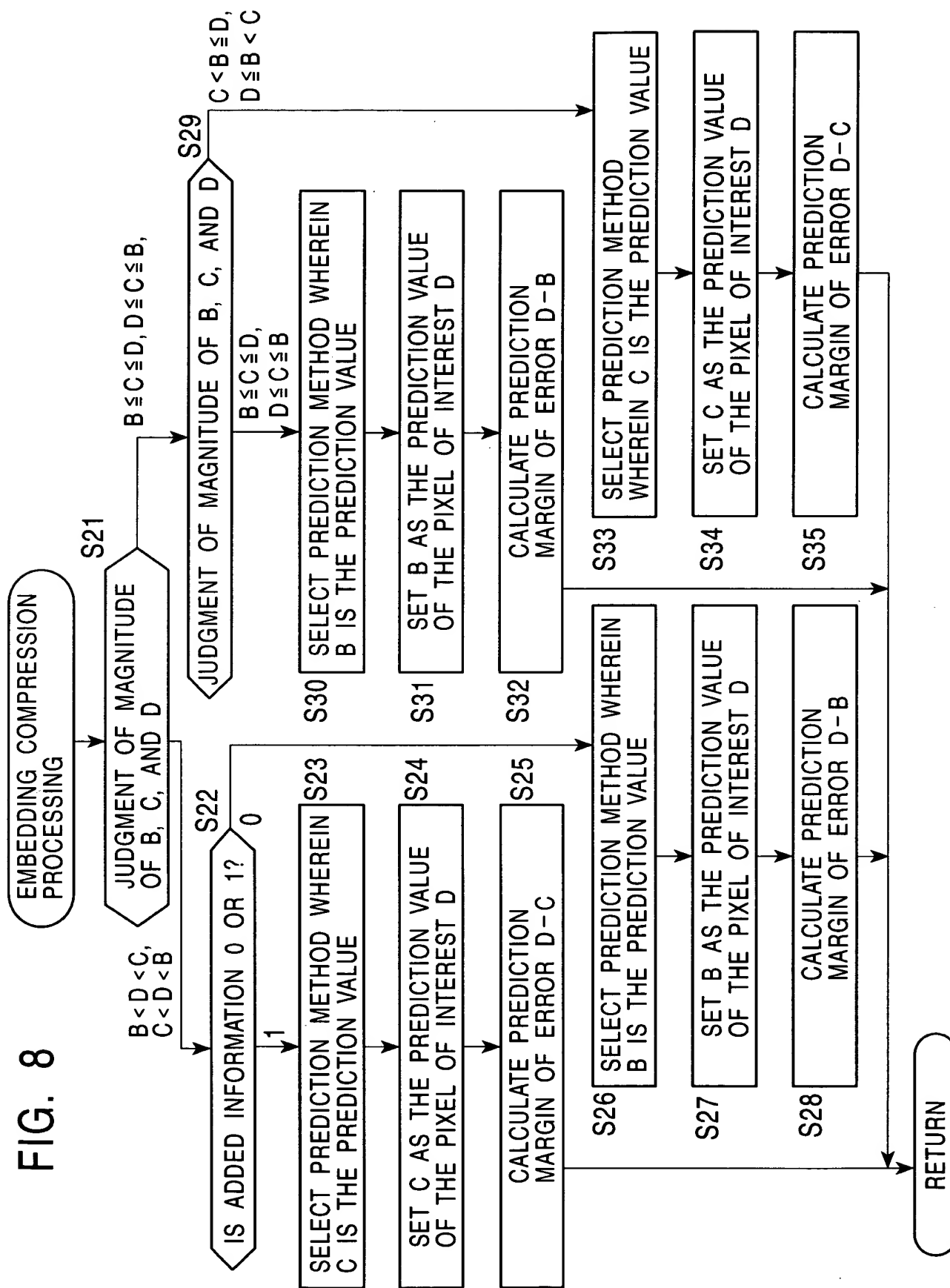


FIG. 9

RELATION OF B, C, AND D		EMBEDDING JUDGMENT	ADDED INFORMATION	PREDICTION VALUE	PREDICTION MARGIN OF ERROR
$B \neq C$	$B < D < C$ OR $C < D < B$	YES	0	B	$D - B$
			1	C	$D - C$
	$B < C \leq D$ OR $D \leq C < B$	NO	—	B	$D - B$
	$C < B \leq D$ OR $D \leq B < C$	NO	—	C	$D - C$
$B = C$	—	NO	—	B	$D - B$

FIG. 10

RELATION OF A, B, C, AND D		EMBEDDING JUDGMENT	ADDED INFORMATION	PREDICTION VALUE	PREDICTION MARGIN OF ERROR
$B \neq C$	$B < D < C$ OR $C < D < B$	YES	0	B	$D - B$
			1	C	$D - C$
	$B < C \leq D$ OR $D \leq C < B$	NO	—	B	$D - B$
	$C < B \leq D$ OR $D \leq B < C$	NO	—	C	$D - C$
$A \neq B = C$	$A < D < B$ OR $B < D < A$	YES	0	A	$D - A$
			1	B	$D - B$
	$A < B \leq D$ OR $D \leq B < A$	NO	—	A	$D - A$
	$B < A \leq D$ OR $D \leq A < D$	NO	—	B	$D - B$
$A = B = C$	—	NO	—	A	$D - A$

FIG. 11

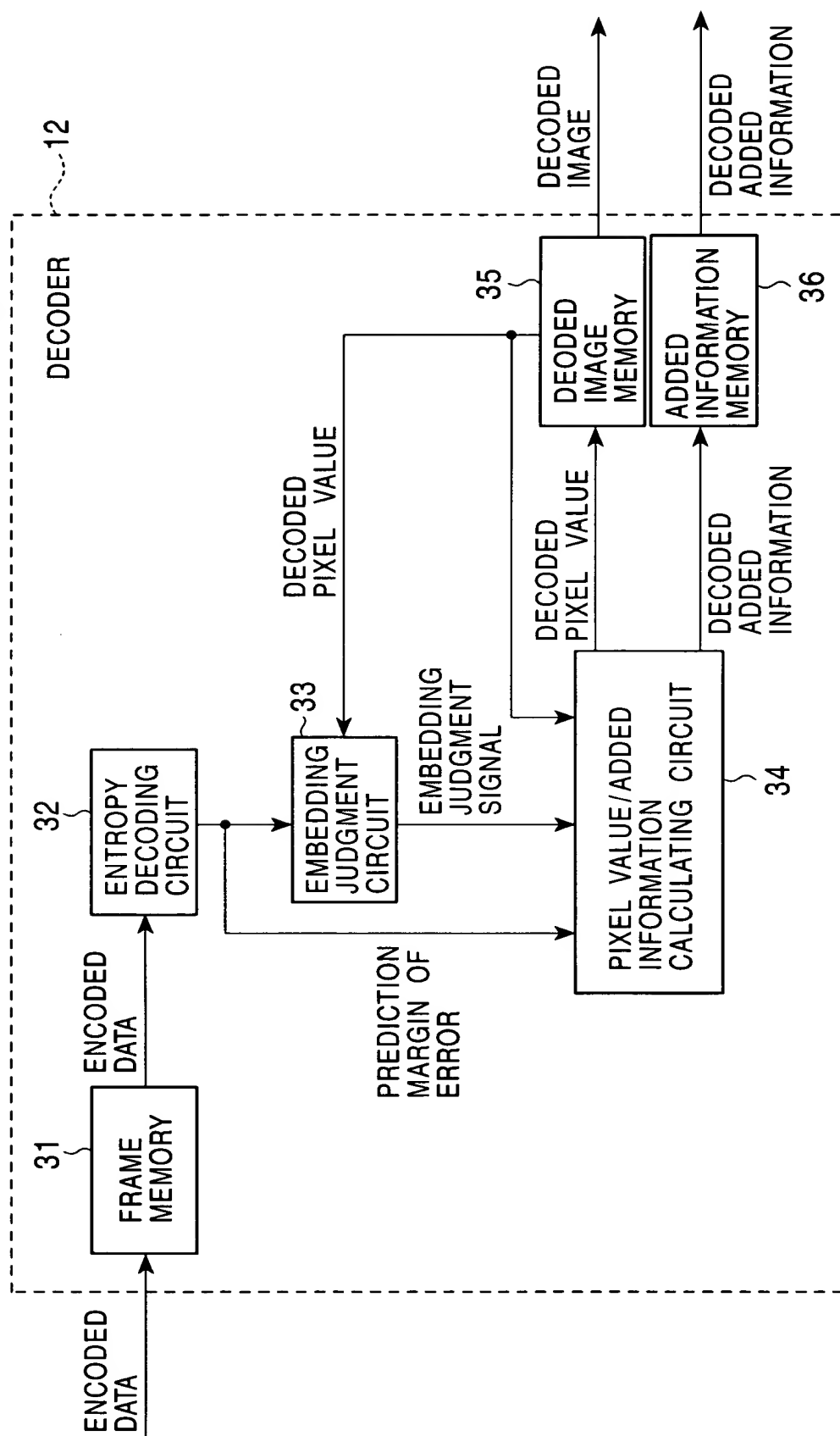


FIG. 12

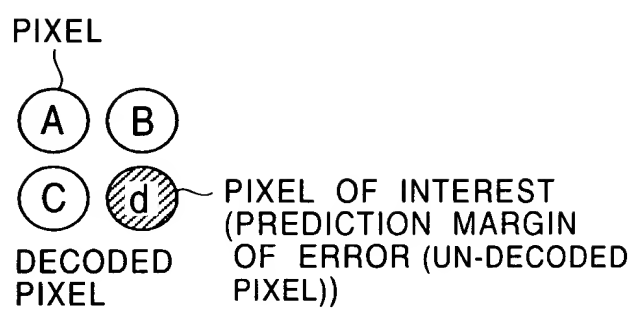
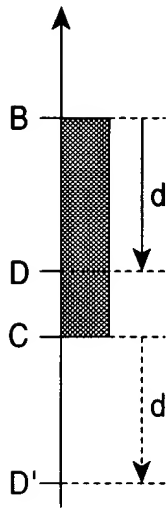


FIG. 13A

PIXEL VALUE

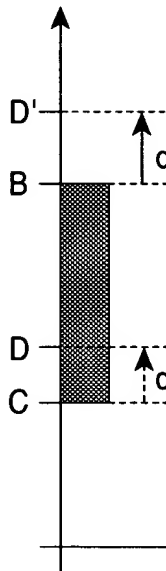


PREDICTION METHOD
WHEREIN B IS SET AS
THE PREDICTION VALUE

→ 0 IS EMBEDDED

FIG. 13B

PIXEL VALUE



PREDICTION METHOD
WHEREIN C IS SET AS
THE PREDICTION VALUE

→ 1 IS EMBEDDED

FIG. 14

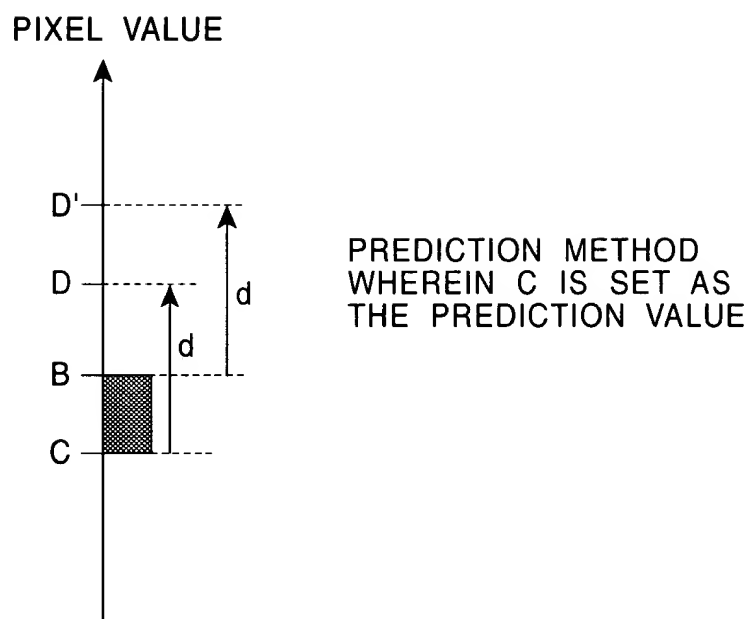


FIG. 15

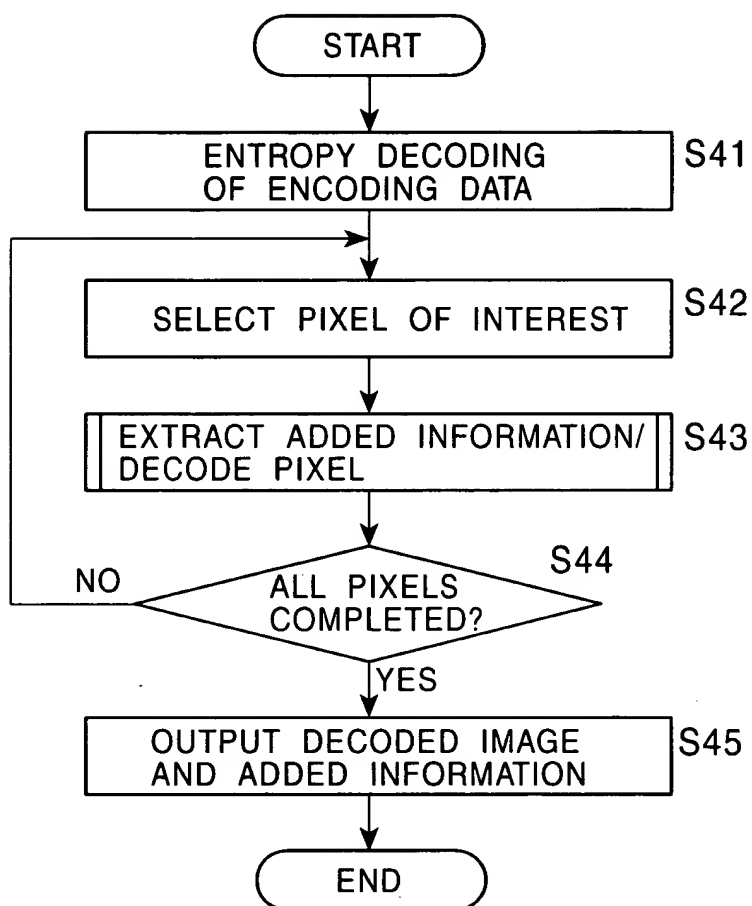


FIG. 16

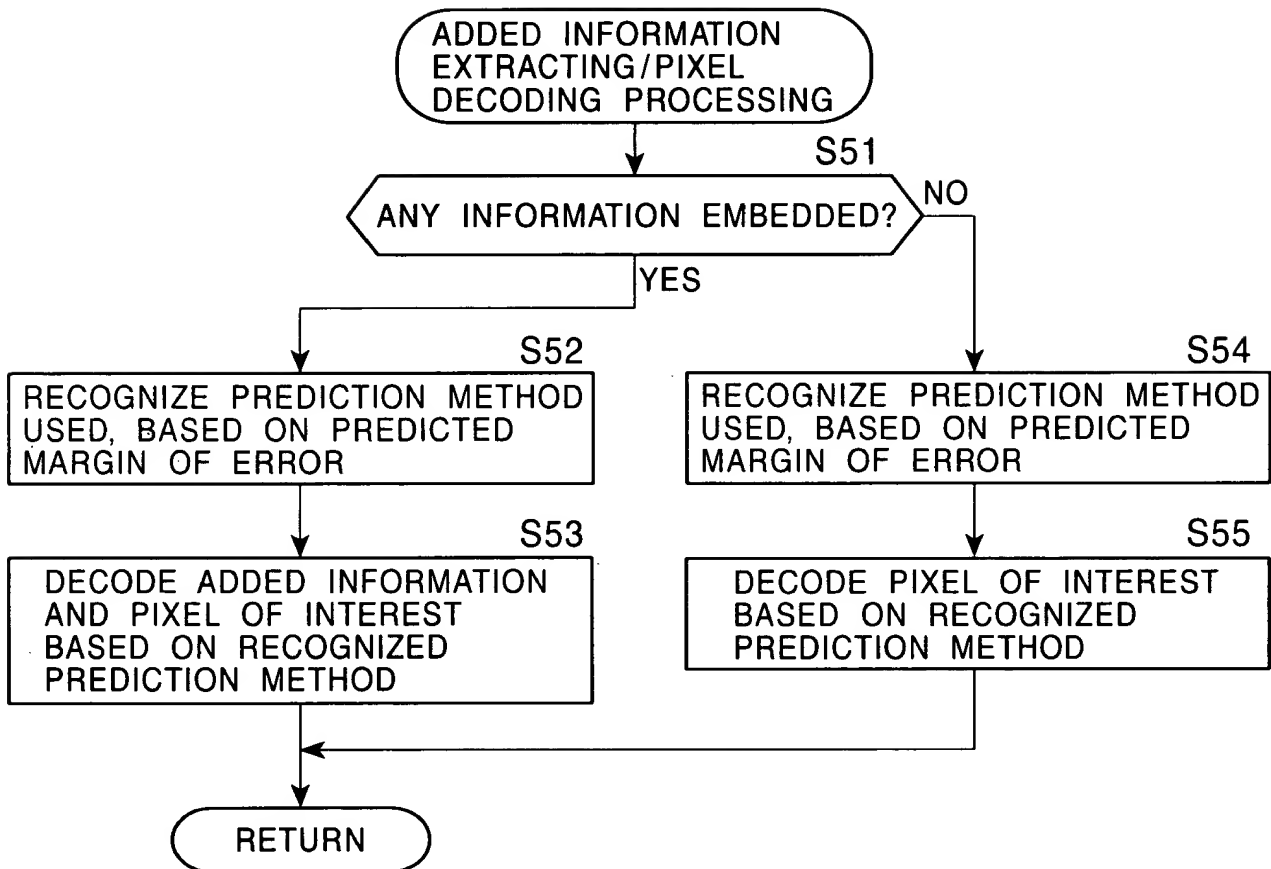


FIG. 17

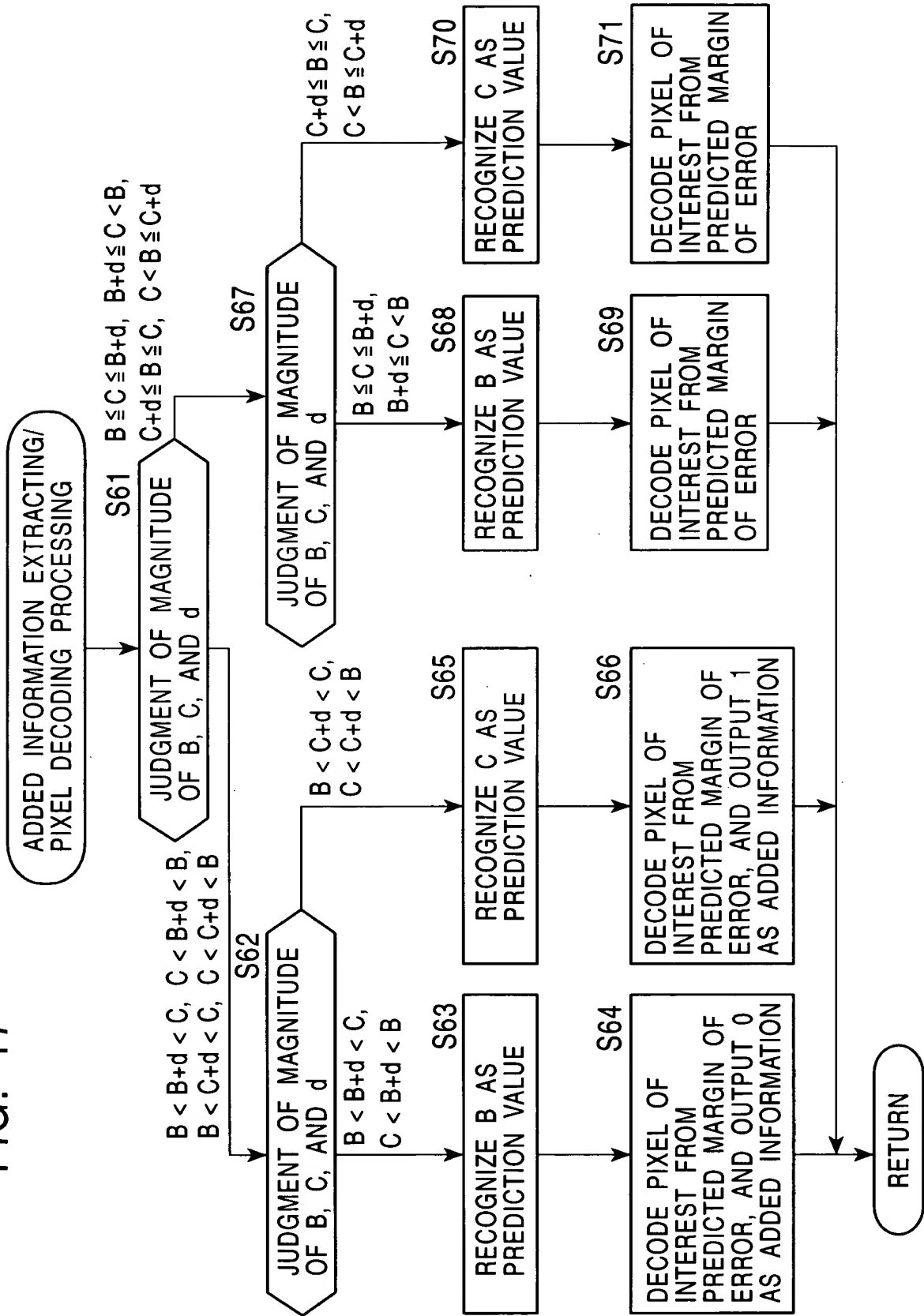


FIG. 18

RELATION OF B, C, AND d		JUDGMENT RESULTS OF EMBEDDED INFORMATION	ADDED INFORMATION	DECODED VALUE
B \neq C	B < B+d < C OR C < B+d < B	YES	0	B+d
	B < C+d < C OR C < C+d < B	YES	1	C+d
	B < C \leq B+d OR B+d \leq C < B	NO	—	B+d
	C+d \leq B < C OR C < B \leq C+d	NO	—	C+d
B = C	—	NO	—	B+d

FIG. 19

RELATION OF A, B, C, AND d		JUDGMENT RESULTS OF EMBEDDED INFORMATION	ADDED INFORMATION	DECODED VALUE
$B \neq C$	$B < B+d < C$ OR $C < B+d < B$	YES	0	$B+d$
	$B < C+d < C$ OR $C < C+d < B$	YES	1	$C+d$
	$B < C \leq B+d$ OR $B+d \leq C < B$	NO	—	$B+d$
	$C+d \leq B < C$ OR $C < B \leq C+d$	NO	—	$C+d$
$A \neq B = C$	$A < A+d < B$ OR $B < A+d < A$	YES	0	$A+d$
	$A < B+d < B$ OR $B < B+d < A$	YES	1	$B+d$
	$A < B \leq A+d$ OR $A+d \leq B < A$	NO	—	$A+d$
	$B+d \leq A < B$ OR $B < A \leq B+d$	NO	—	$B+d$
$A = B = C$	—	NO	—	$A+d$

FIG. 20

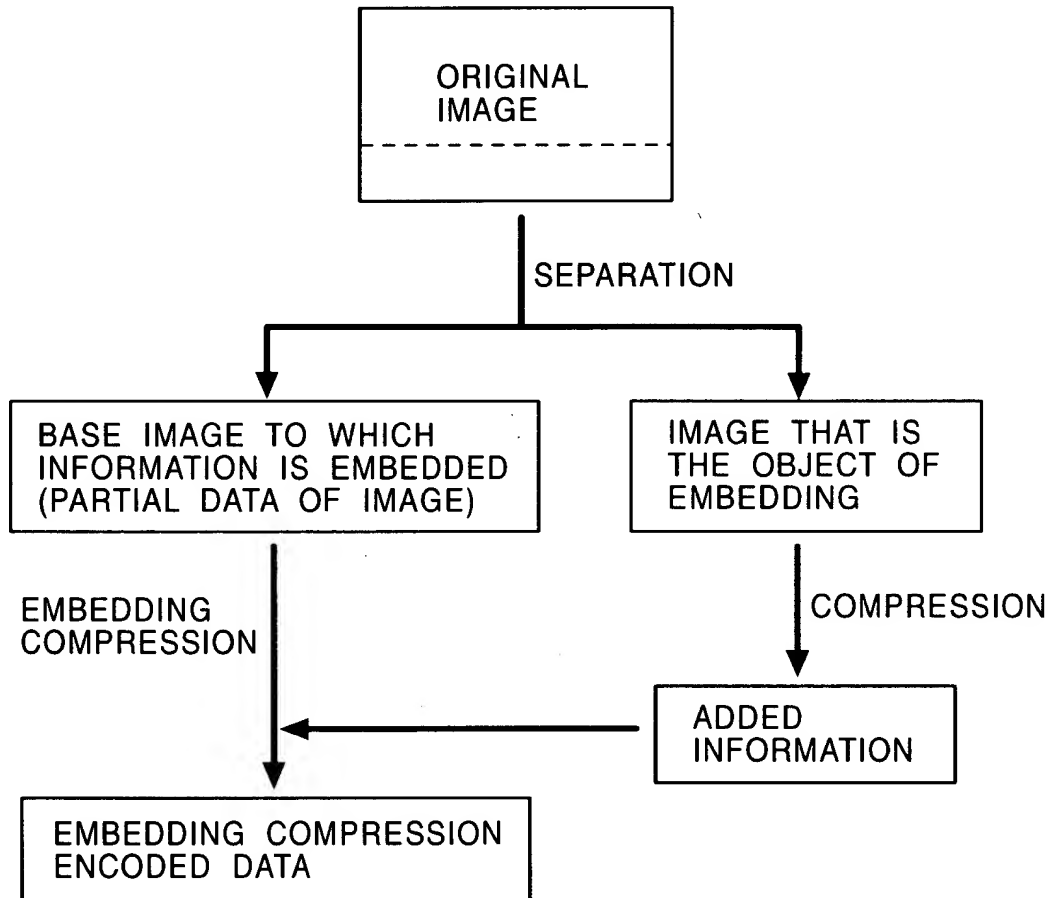


FIG. 21

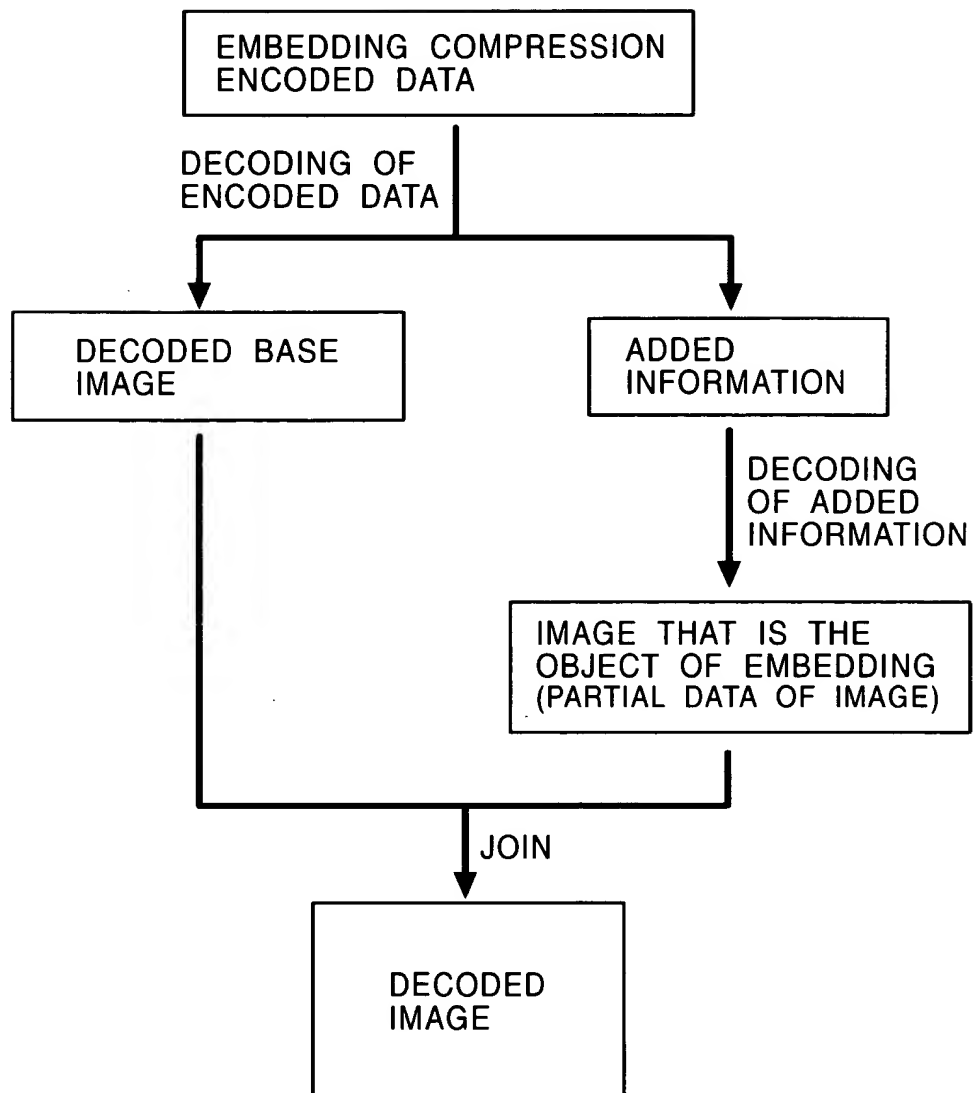


FIG. 22

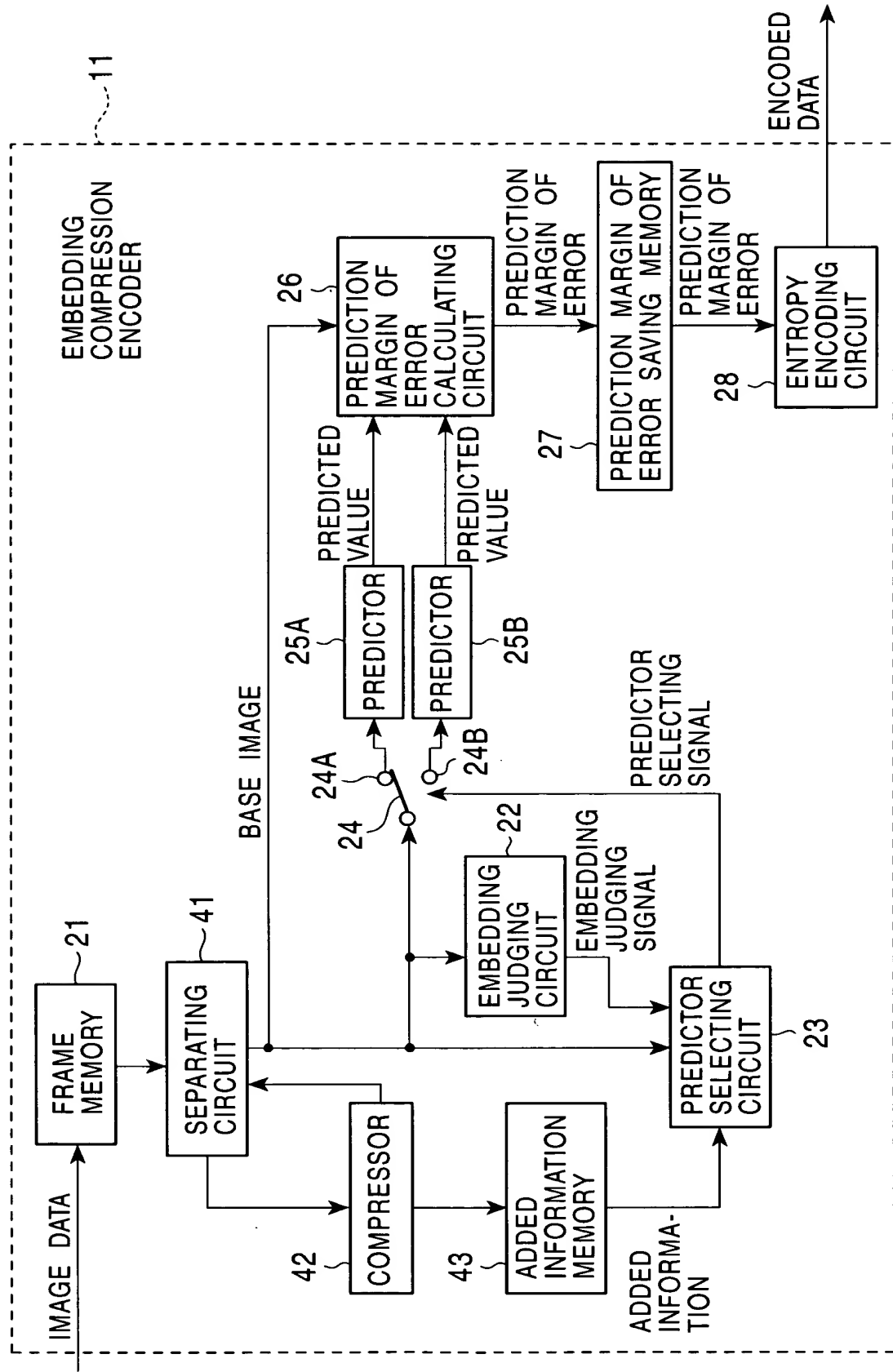


FIG. 23

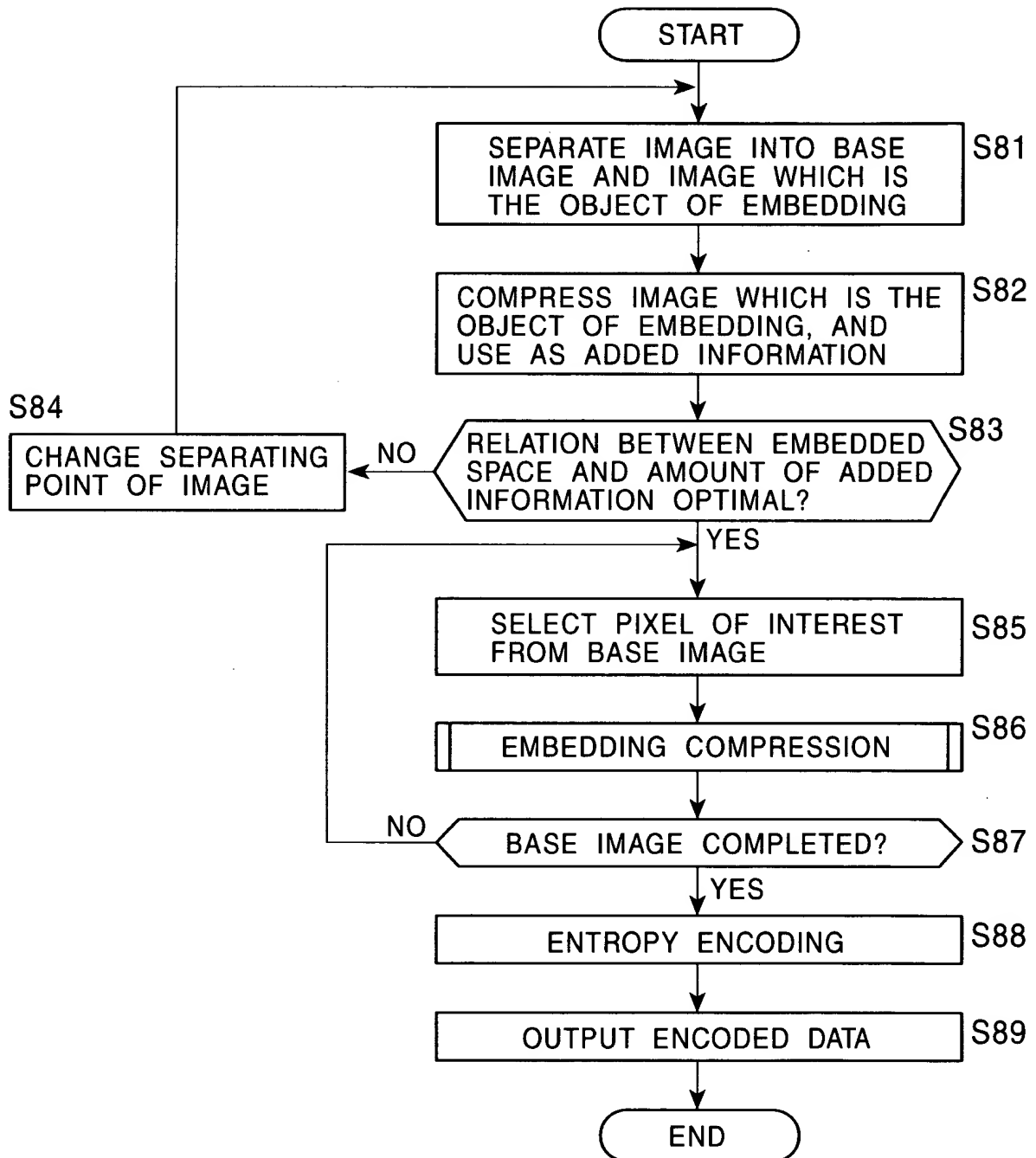


FIG. 24

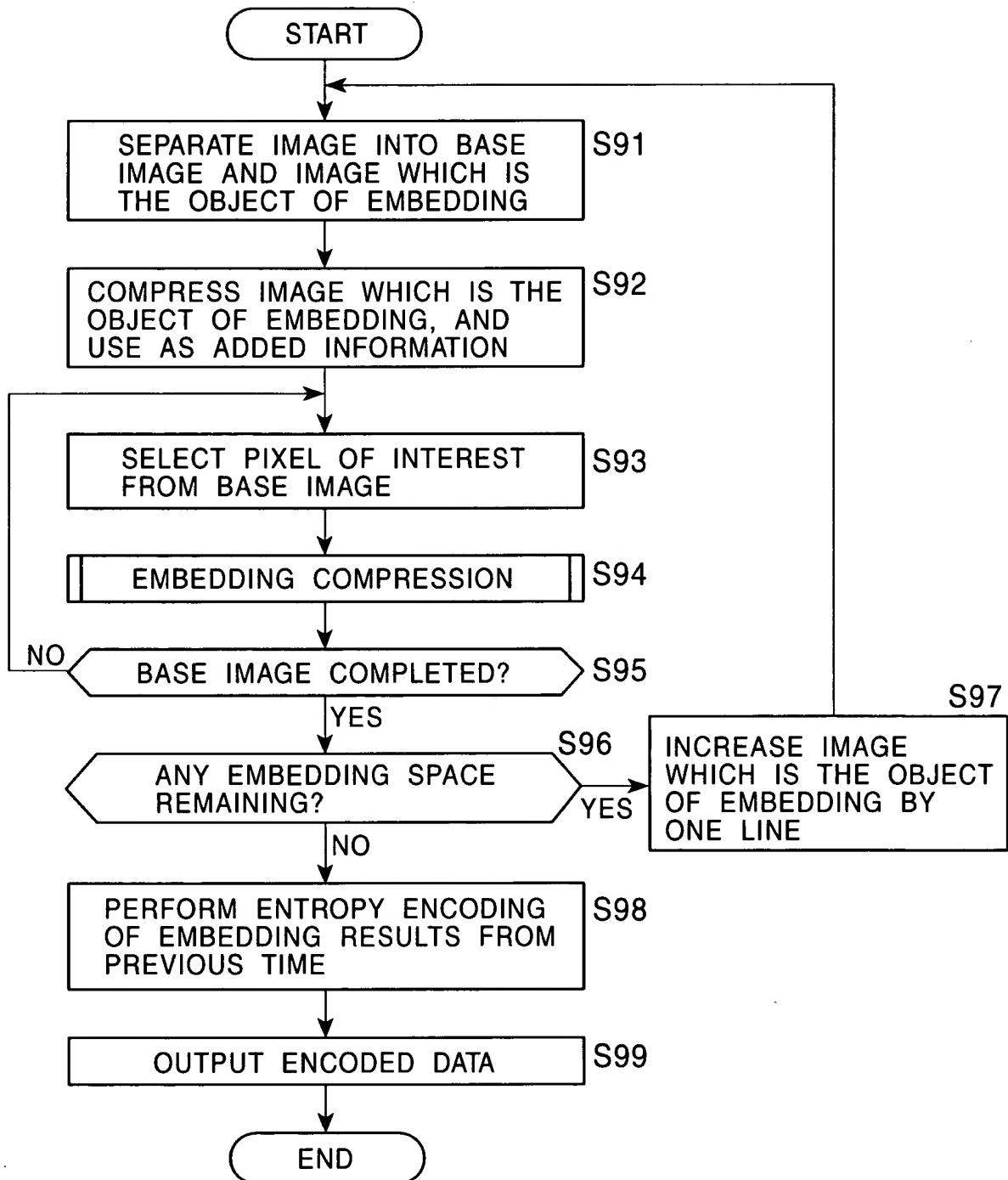


FIG. 25

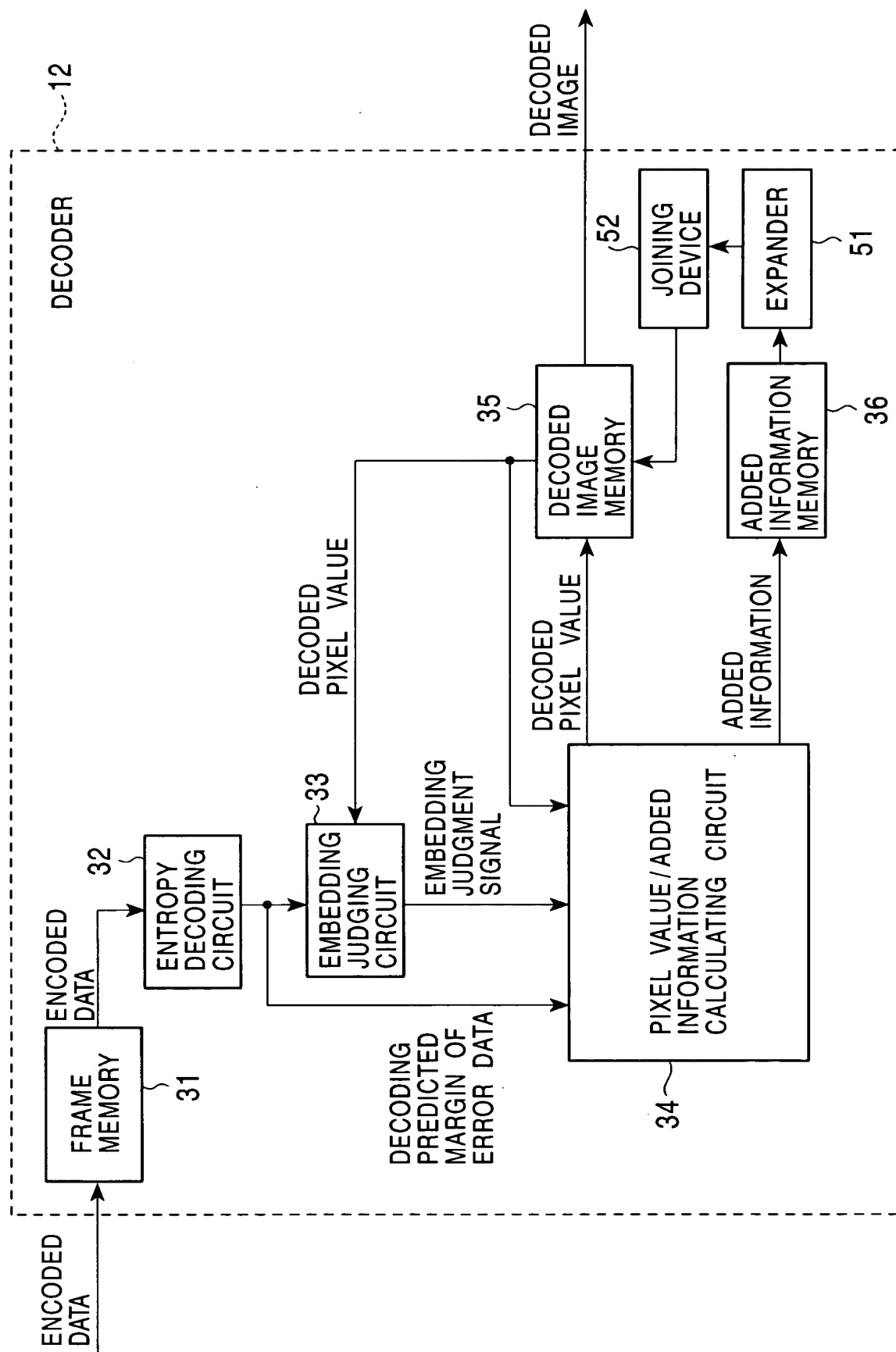


FIG. 26

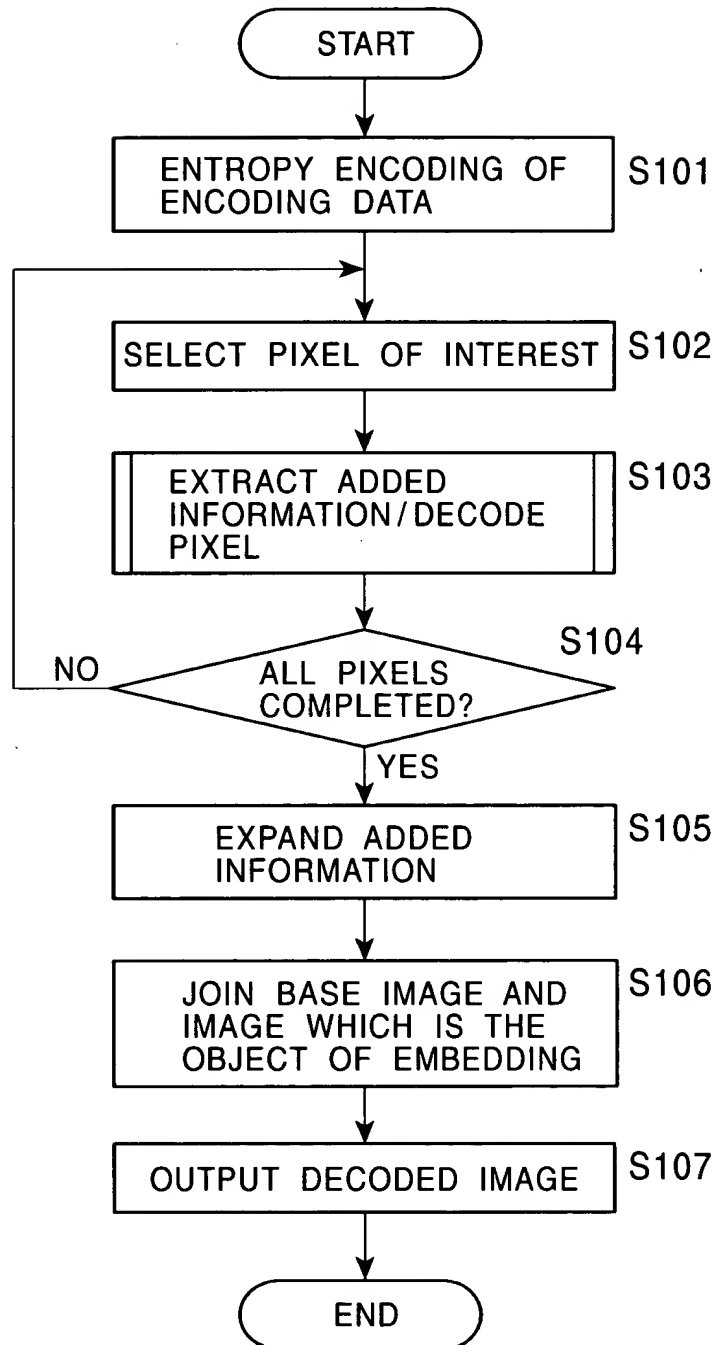


FIG. 27

COMPRESSING METHOD	IMAGE #1	IMAGE #2
PRESENT METHOD	0.681	0.519
CONVENTIONAL PREDICTION ENCODING	0.691	0.539

FIG. 28

